 Mark of the Unicorn

# MIDI EXPRESS PC

User's Guide

# PC

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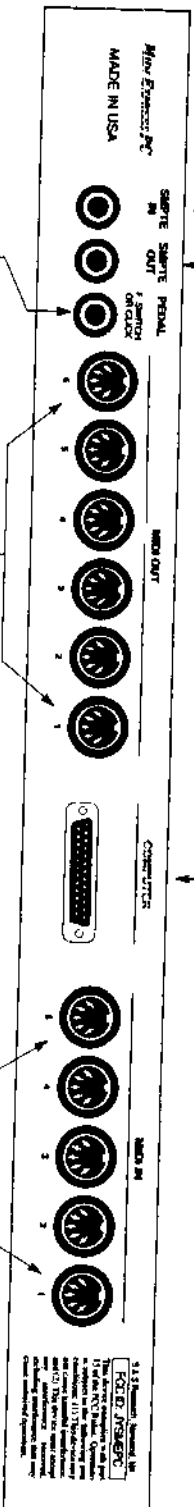
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# Rear Panel

SMPTE IN is a 1/4" phone jack that receives SMPTE time code (LTC).

SMPTE OUT is a 1/4" unbalanced phone jack that emits SMPTE time code (LTC).

This is a DB-25 jack that connects the MIDI Express to the PC card with the cable that ships with the MIDI Express PC.



PEDAL is a 1/4" unbalanced phone jack that accepts a momentary foot switch jack. It can also receive an audio click, which the Express can convert into MIDI data. (It does not accept an "expressor" pedal.)

These are the MIDI Express PC's six MIDI OUT jacks. Each cable can have its own set of sixteen MIDI channels when you use sequencing software that supports the MIDI Express multi-cable outputs.

These are the MIDI Express PC's five MIDI IN jacks. Each cable can have its own set of sixteen MIDI channels when you use sequencing software that supports the MIDI Express multi-cable inputs. MIDI IN port 6 is located on the MIDI Express front panel for convenient access.

# Front Panel

MIDI IN port 6 and MIDI OUT port 6 are placed on the front panel for convenient access. MIDI OUT port 6 is duplicated on the rear panel.

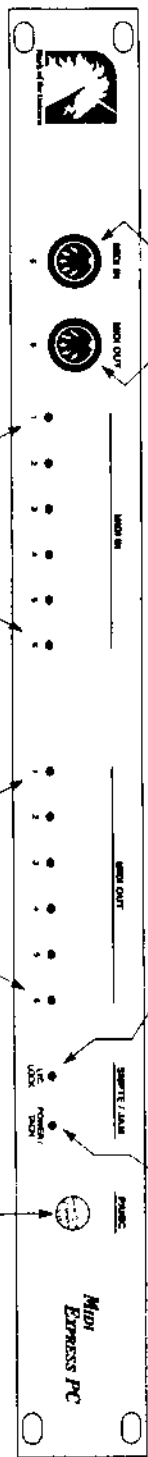
The red MIDI IN lights indicate incoming MIDI data on the MIDI inputs. A steady glow usually indicates either active sensing data (harmless) or MIDI sync data (MIDI beat clocks).

The green MIDI IN lights indicate outgoing MIDI data on the MIDI outputs. A steady glow usually indicates either active sensing data (harmless) or MIDI sync data (MIDI beat clocks).

PANIC sends out an all notes off message on every MIDI channel to cease any stuck notes. If you press it twice quickly, it also sends out a note-off message for every note on every channel.

LTC LOCK glows steadily when synchronization has been achieved.

POWER/TACH glows when the MIDI Express is powered up. The MIDI Express does not have a power switch, power cord, or power supply. Instead, it draws power from its connection to the computer. This light also blinks once per second during SMPTE lockup.



## Chapter 1 ***Installation and Setup***

### ***Mail in the registration card***

Please complete and mail in the registration card included with this manual; doing so entitles you to the conditions of the limited warranty, updates, technical support, and upgrade information. Since Mark of the Unicorn cannot provide customer support to non-registered users, please be sure to send the card in immediately after purchase.

### ***Packing list***

The MIDI Express PC is shipped with the items listed below. If any of these items are not present in your MIDI Express PC box when you first open it, please contact your dealer immediately.

- One MIDI Express PC rack mount unit
- One 8-bit PC card
- One DB-25 to DB-25 cable
- One floppy disk containing the MIDI Express PC software
- One MIDI Express PC Manual with Registration Card and Limited Warranty

### ***Computer requirements***

The MIDI Express runs under Windows 3.1 (or higher). The computer requirements are as follows:

- Enough processing power to run Windows 3.1
- At least one free card slot inside the machine
- 4 megabytes RAM
- A VGA monitor
- At least 2 megabytes of free hard disk space
- A mouse

**Installation overview**

Installing the MIDI Express PC is easy. Here is an overview of the installation:

1. Set the Express PC card I/O address if necessary
2. Install the Express PC card inside the computer
3. Connect the external rack mount unit to the Express PC card with the DB-25 to DB-25 cable provided with the MIDI Express PC
4. Connect your MIDI gear to the Express PC MIDI ports
5. (Optional) Make additional connections for SMPTE, a foot switch, and/or a click input

You are then ready to install the MIDI Express PC Console software:

1. Install the "MOTU MIDI Express PC" windows driver
2. Install MIDI Express PC Console (the control software for the MIDI Express PC)

If you are experienced with MIDI hardware and Windows MIDI software, you probably have a pretty good idea of what to do already. If not, the rest of this chapter covers the installation process step by step.

The MIDI Express PC card is packaged inside an anti-static bag that protects its sensitive electronic components from the discharge of static electricity. Before handling the card, always be sure to discharge your clothes and body by touching a grounded metal surface, such as the power supply inside your computer. This will prevent a static discharge while handling the card. (Static can permanently damage the components on the card.) When handling

**Be Careful!**

**Setti  
Carc  
Add**

**The D  
is 340**

**Verify  
Addre**

the card, always hold it by its edges or mounting bracket. Never touch the contact tab at the bottom of the card or any of the components or traces on the card itself.

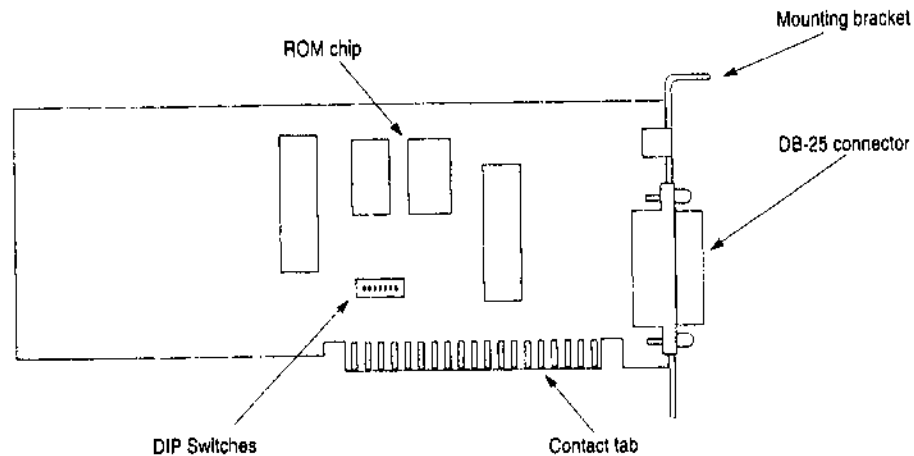


Figure 1-1: The MIDI Express PC Card. The DIP switches set the I/O address. The contact tab fits into an expansion slot inside the computer. The mounting bracket covers the expansion slot on the backside of the computer. The DB-25 cable connector accepts a cable that connects the PC card to the external MIDI Express PC rack space unit. The ROM chip contains the "brains" of the card and can be replaced, if necessary, with a updated versions that contain software enhancements.

## Setting the PC Card I/O Address

**The Default I/O Address is 340**

### Verifying the Default Address

When an PC card is placed in an expansion slot inside your computer, it must be assigned a unique I/O (input/output) address so that its address does not conflict with any other card in the computer. If two cards accidentally share the same address, the computer will not function properly.

The default I/O address for the MIDI Express PC card is 340. Other MIDI interfaces are usually set to address 300 or 330. We chose 340 because it is an address that is not typically used by other common expansion card devices, such as modems, monitors, printers, or other MIDI interfaces.

If you do not have other expansion cards installed in your computer, you do not need to change the I/O address. All you need to do is verify that the address is set properly to 340. To do so, locate the seven DIP switches on the card as shown in Figure 1-1 on page 12.

and verify that they are set in the manner shown in Figure 1-2 below. Then proceed to the section called "Installing the Express PC Card" on page 15.

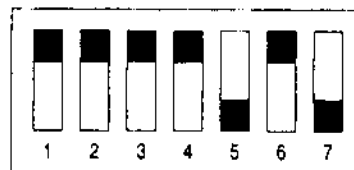
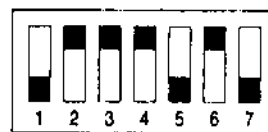


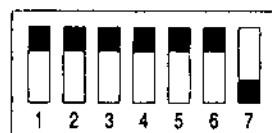
Figure 1-2: DIP switch settings for the factory default I/O address of 340.

### Changing the I/O Address

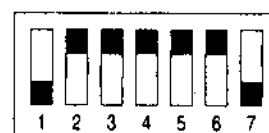
If you have other expansion cards installed in your computer, check their documentation to determine what their I/O address is (alternately referred to as the "base address"). Chances are that there will be no conflicts. However, if you find that another card is assigned to address 340, you will either have to change its address or change the MIDI Express PC card's address. To change the MIDI Express PC card's address, we recommend setting it to address 344, 300, or 304, as shown in Figure 1-3 below.



344



300



304

Figure 1-3: Alternate I/O addresses for the Express PC card.

### A note about the IRQ (interrupt)

Each expansion card installed in a PC must also be assigned a unique IRQ setting. If two cards share the same IRQ assignment, the computer will not function properly.



## ***Installing the Express PC Card***

To help prevent conflicts with other cards, the Express PC card ships with no IRQ assignment. Instead, the Express PC card's IRQ gets set as soon as you boot up any MIDI software that supports the MIDI Express PC. The IRQ setting you choose in your MIDI software determines the Express PC card's IRQ and initializes the Express PC card to that interrupt.

Once you have dealt with the I/O address for the MIDI Express PC card as described in the above sections, the next step is to install the card inside the computer. To do so, follow these easy steps:

1. **Turn off the computer and unplug the power cord.**
2. **Position the computer so that the rear panel is facing you.**
3. **Remove the cover's mounting screws.**
4. **Remove the cover.**

On most models, this can be accomplished by sliding the cover forward, away from the rear panel.

5. **Locate an empty expansion slot.**

The slots are located at the rear of the computer. You can choose either an 8-bit or 16-bit slot, although a 16-bit slot offers no advantage to the Express PC card.

6. **Remove the expansion slot cover from the backside of the computer.**

This may involve removing a screw at the top of the slot cover.

7. Grasp the Express PC card by the edges and insert its contact tab into the expansion slot as shown in Figure 1-4 below.

Be sure not to touch any of its sensitive components. Also, do not touch the contact tab at the bottom of the card. (Figure 1-1 on page 13 shows where the contact tab is.)

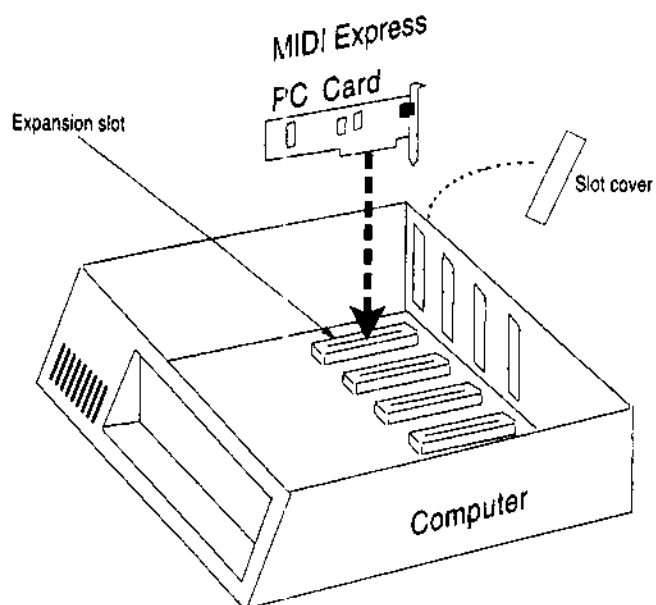


Figure 1-4 Installing the Express PC card into an expansion slot inside the computer.

## Connecting the External Unit to the PC Card

8. Be absolutely sure that the contact tab of the Express PC card is firmly seated in the expansion slot as shown in Figure 1-5.

☛ Be careful! Do not push the card into the slot too hard.

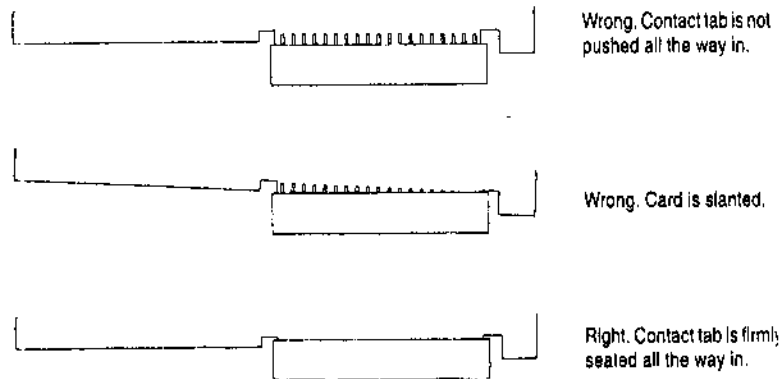


Figure 1-5: Seating the contact tab firmly into the expansion slot.

9. Secure the mounting bracket with the screw that held the slot cover.

10. Put the cover back on the computer.

☛ If you have trouble booting up your computer after installing the MIDI Express PC card, or if you experience problems transmitting and receiving MIDI data, you may need to try changing the I/O address of the card. See "Setting the PC Card I/O Address" on page 13.

To connect the external rack-mount unit to the PC card, use the cable that ships with the MIDI Express PC. Plug one end into the jack on the PC card, and plug the other end into the rear panel of the MIDI Express PC. Be sure to tighten the mounting screws so that the plug does not work itself loose.

## Connecting MIDI gear

Using standard MIDI cables, connect each MIDI device's MIDI IN jack to one of the 6 MIDI OUT jacks on the MIDI Express PC as shown by Connection A in Figure 1-6 on page 18. Conversely, connect the MIDI OUT jack on the MIDI device to one of the 4 MIDI IN jacks on the MIDI Express PC as shown by Connection B.

MIDI devices that do not receive MIDI data, such as a dedicated keyboard controller, guitar controller, or drum pad, do not need Connection A shown below in Figure 1-6. Similarly, devices that never send data, such as a sound module, do not need Connection B. However, if you plan to use editor/librarian software with the sound module, or if you need to get system exclusive bulk dumps from it, make both connections. In general, make both connections for any device that needs to both send and receive MIDI data.

**Note:** even though the MIDI Express PC does not require that you use the same numbered MIDI IN and MIDI OUT for each device, we recommend that you do so—especially if you will be using the “Live Keyboards” setup, which prevents MIDI feedback loops when you have both the MIDI IN and MIDI OUT on your controller connected to the MIDI Express PC.

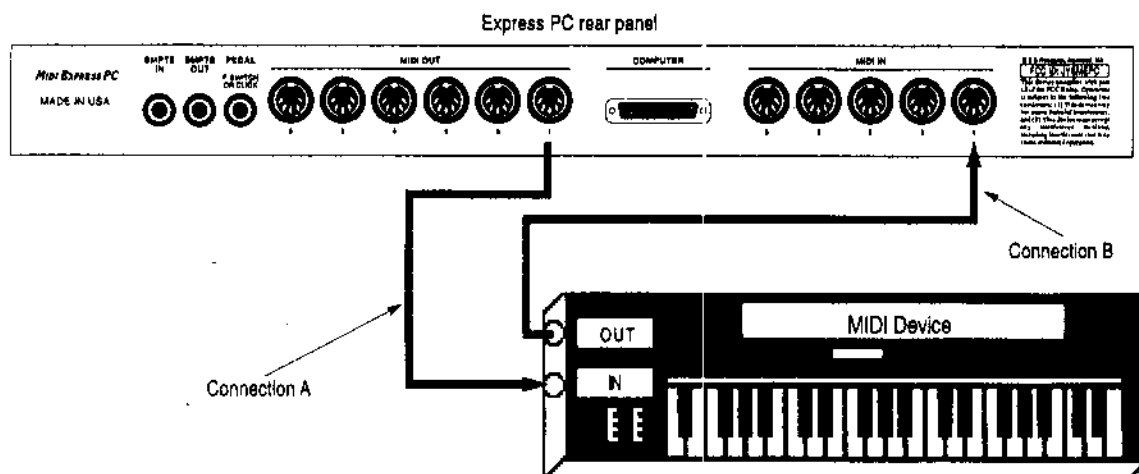


Figure 1-6: Connecting a MIDI device to the MIDI Express PC. If you are connecting a sound module or other device that does not need to transmit MIDI data, you do not need to make connection B shown above. Conversely, if the device is a MIDI controller such as a drum pad or guitar controller, you do not need to make Connection A.

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### ***MIDI connections work sheet***

Here's a suggestion. If you have more than a few pieces of gear connected to the MIDI Express PC, jot down which device is connected to each input and output in the work sheet below. Later on, you'll enter this information into the MIDI Express PC Console software, which will allow you to refer to your MIDI devices by name (rather than cable number) in the software.

### ***MIDI Cable Connections Work sheet***

#### **MIDI IN**

#### **MIDI OUT**

1	1
2	2
3	3
4	4
5	5
6	6

### ***Connecting audio cables for SMPTE***

If you will be synchronizing the computer to an external time code source such as an audio tape recorder (ATR), make the audio connections shown in Figure 1-7 on page 20.

Normally, time code is recorded on an outside track of a multi-track tape deck. Take the audio out from this track and connect it to the SMPTE IN on the MIDI Express PC. If you need to record ("stripe") SMPTE time code on a track, connect the SMPTE OUT from the

## ***Installing the MIDI Express PC Windows Driver***

Before you can use any Windows software with the MIDI Express PC, you need to install the MIDI Express PC Multimedia Extensions driver in the control panel. To do so:

1. Run the Windows Control Panel.
2. Double-click the "Drivers" icon.
3. Press Add.
4. Select "Unlisted or Updated Driver".
5. Insert the MIDI Express PC diskette, specify the disk drive, and click OK.
6. Select the MOTU MIDI Express PC driver.

The driver then presents you with a setup window to specify the port address and IRQ.

7. If necessary, change the I/O address and IRQ setting and click OK to confirm your change.

For information about these settings, see the next two sections.

### ***Setting the I/O address***

The default I/O port address is 340. If you have changed the address as explained in "Setting the PC Card I/O Address" on page 13, make sure you match the new setting in the Control Panel driver setup window.

### ***Setting the IRQ***

Each expansion card installed in a PC must also be assigned a unique IRQ setting. If two cards share the same IRQ assignment, the computer will not function properly.

The default IRQ setting in the MIDI Express PC Windows driver is 5. If you later experience problems receiving or sending MIDI, the MIDI Express PC IRQ setting may be in conflict with another device you have in the computer. If so, set the MIDI Express PC IRQ setting to a value not shared by any other devices. Common sources of IRQ conflicts are:

- A hard disk on a card
- A bus mouse (one that connects to an expansion card instead of a serial port)

## **Installing MIDI Express PC Console for Windows**

### **■ A VGA card**

Installing the MIDI Express PC Console software for Windows is as simple as running the SETUP program located on the Installation floppy diskette. This can be done in two ways:

1. Choose the File|Run menu selection in the Program Manager, type A:\SETUP, and hit OK.
2. Find the floppy diskette's SETUP.EXE icon in the File Manager, and double-click the icon.

The installation process will prompt you for a directory into which the software will be placed. A new group will be created in the Program Manager, and two items created in the new group. One of these items will allow you to run the new Express PC Console for windows, and the other will allow you to bring up a text document containing late-breaking news about the MIDI Express PC hardware and software.

## **Where to go next**

Where you go next depends on what you would like to do.

### ***If you want to use MIDI software...***

If you would like to use your favorite MIDI software, no further preparation is necessary. You can run Windows MIDI software that supports Microsoft's Multimedia Extensions or directly supports the MIDI Express PC, such as Cakewalk Professional™ for Windows by Twelve Tone Systems, Cadenza™ for Windows by Big Noise Software, and Cubase™ for Windows by Steinberg Jones. MIDI Express PC input and output devices automatically become available to these other MIDI programs, and you can make MIDI input and output assignments with them.

- It is not necessary to have the MIDI Express PC Console software running at the same time as your other MIDI software. Use the Console to set up the Express PC as needed, and then if you don't need to make any further changes, you can quit the Console. "Set it and forget it", as they say. You can always re-open the console later to make further changes, if necessary.

## Chapter 2 ***Using MIDI Express PC Console***

### ***About MIDI Express PC Console***

MIDI Express PC Console serves as a "control center" for the MIDI Express PC. For example, you can make changes to the SMPTE settings or connect one MIDI device to another.

This chapter takes you through the process of opening Express PC Console for the first time. It also introduces you to several unique aspects of the windows you will use in the software.

In explaining how to use MIDI Express PC Console, this chapter assumes that you are already familiar with the standard Windows interface conventions, such as how to select options using check boxes and radio buttons, how to type and edit text, and so forth.

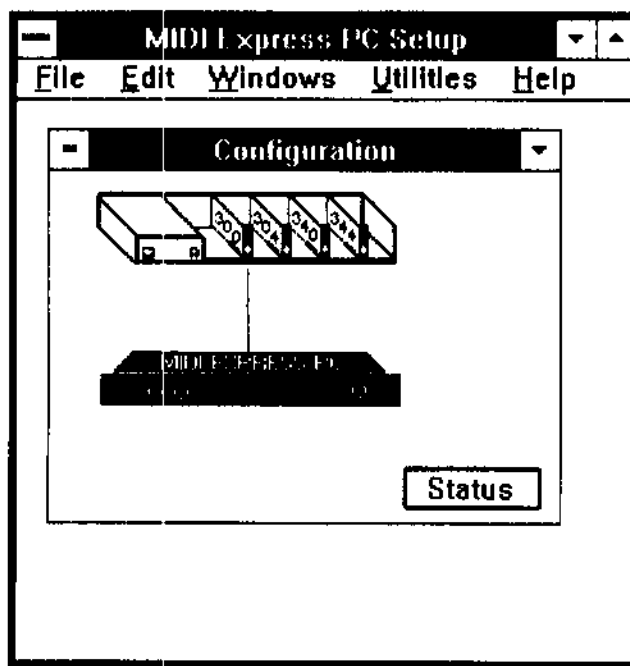
### ***Opening MIDI Express PC Console for the first time***

After installing MIDI Express PC Console, follow the procedure below to ensure that it has successfully established communication with the MIDI Express PC. To open the MIDI Express PC Console:



1. Double-click the Program Manager's MIDI Express PC Console icon.

If all goes well, you should see the Configuration window appear. The Configuration window confirms that the Console can successfully communicate with the MIDI Express PC.



2. If you don't see the Configuration window, and instead see a message telling you that the Console can't communicate successfully with the MIDI Express PC, check the following things and try again.
  - Make sure that the I/O address set in the Express PC Windows driver in the Control Panel matches the hardware setting on the PC card (as determined by the DIP switches on the card). See the diagrams in the section "Setting the PC Card I/O Address" on page 13 and make sure that the DIP switches match the diagram for the I/O address you want to use. Then make sure that the MIDI Express PC Windows driver setting in the Control Panel matches the DIP switches.

- Make sure that the IRQ used for the MIDI Express PC Windows driver in the Control Panel is not being used by another device.
- Make sure that the MIDI Express PC Windows driver is installed correctly—in the Control Panel Drivers window.
- If all of the above fail, make sure that the MIDI Express PC card is firmly and properly seated in its slot.

**3. Once you have verified your MIDI Express PC configuration, you are ready to begin using the other features in MIDI Express PC Console.**

We recommend that you begin by naming the MIDI INs and OUTs in the network. After reviewing the rest of this chapter, see "Naming inputs and outputs" on page 41.

## Check box grids

Several MIDI Express PC Console windows display an entire grid of check boxes (because each window offers so many possibilities!) A check box grid looks like this:

	Channel															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
K2000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
01/WFD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drumkat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D-110	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TX816	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
S1000	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 2-1: A Check box grid.

The grid consists of check boxes placed edge to edge in rows and columns. The rows and columns are arranged into groups of four for clarity.

A check box in the grid represents a connection between its row and column numbers. For example, the box that is checked in the grid shown in Figure 2-1 indicates channel 9 on the cable named "Akai S1000".

Check boxes in a grid function the same way as regular check boxes. In addition, we have added several shortcuts that you will find extremely useful when using the grids. To select several adjacent boxes, click and drag. To select an entire column, click the column number. Similarly, to select an entire row, click the row number.

### **Controlling the MIDI Express PC from the Console software**

To deselect an entire row or column, click the number again. The row will only deselect if all boxes in it are selected.

The MIDI Express PC has power-up default settings that facilitate the use of MIDI software, especially sequencers that support multiple, separate-channel MIDI ports like Cakewalk Pro, Cubase, and Cadenza.

You can make changes to these power-up default settings by using any of the windows in the MIDI Express PC Console software. For example, you can use the Cable Routing window to connect a MIDI device on MIDI IN port 1 to another device on MIDI OUT port 5. Or you can use the SMPTE Controls window to stripe SMPTE time code.

Changes you make to the MIDI Express PC setup in these windows are remembered. (They are saved by the MIDI Express Windows driver; they are not saved in the hardware of the MIDI Express itself.)

If you want to save a current state (we call it a "setup"), use the Setups window and Setups menu to save the setup. You can then recall the setup at any time. You can save a potentially unlimited number of setups on disk. For more information, see chapter 3, "Working with Setups" and chapter 4, "Working With Files".

### **Understanding the interaction between the software and hardware**

MIDI Express PC Console always reflects the current state of the MIDI Express PC. (At least, it *should*.) If, at any time, you suspect that the windows in the software don't accurately reflect what's going on in the hardware for some reason, click the Status button in the Configuration window or choose Verify Connections from the Utilities menu. Doing so reestablishes communication between the software and hardware, and the software gets updated to the current state of the hardware.

When communication is successfully established, changes you make in MIDI Express PC Console are immediately reflected in the hardware.

### **Obtaining the ROM version**

To obtain the ROM version of your MIDI Express PC, double-click its icon in the Configuration window. A dialog box appears displaying the ROM version number for the MIDI Express PC.

## Chapter 3 *Working with Setups*

This chapter explains how to manage MIDI Express PC's setups. A setup is a "snapshot" of the MIDI Express PC settings. For example, the setup includes all of the settings that you see in each window, such as SMPTE Controls, Cable Routing, Channel Mapping, and so on.

This chapter explains how to use the Setups window to:

- Modify the factory default settings of the MIDI Express PC
- Create, save and recall a setup
- Create as many setups as you like
- Use the stock setups we have provided for common situations in which you will use the MIDI Express PC

### ***Setup basics***

When you first switch on the MIDI Express PC, it powers up with a factory default setup configured for use with MIDI software, especially sequencers like Cakewalk Pro, Cubase, and Cadenza. You should be able to run MIDI software without making any changes to the MIDI Express PC settings, including recording, playback and SMPTE synchronization via MIDI Time Code (MTC).

At some point, however, you may need to change the default setup. You can do so by using any of the windows in the MIDI Express PC Console software. For example, you can use the Cable Routing window to connect a MIDI device on MIDI IN port 1 to another device on MIDI OUT port 5. Or you can use the SMPTE Controls window to stripe SMPTE time code.

Changes you make to the MIDI Express PC setup in these windows are remembered. (They are saved by the MIDI Express PC Windows driver; they are not saved in MIDI Express PC hardware itself.)

## The Setups window

If you want to save more than one setup, you need to use the *Setups Window and the Setups menu commands*. You can then recall any setup at any time. You can create and save a potentially unlimited number of setups in the Setups window. These tasks are covered in the rest of this chapter.

You can also save the entire contents of the Setups window as a file on disk. For information, see chapter 4, "Working With Files".

The Setups window in the MIDI Express PC Console software gives you an overview of information about all the setups. It lets you:

- View all setups
- View an itemized description of each setup
- Select, modify, create, save, and rename any setup

The status strip shows what setup is currently being loaded or saved.

Stock setups we have provided for common situations.

Click the name of the setup to activate it in the MIDI Express PC. The current setup name is highlighted.

User setups that you create using the Add Setup command in the Setups menu. Drag them up and down in the list to re-order them.

The script for (description of) the current setup. This list tells you all of the settings for the setup, such as cable routing and SMPTE settings.

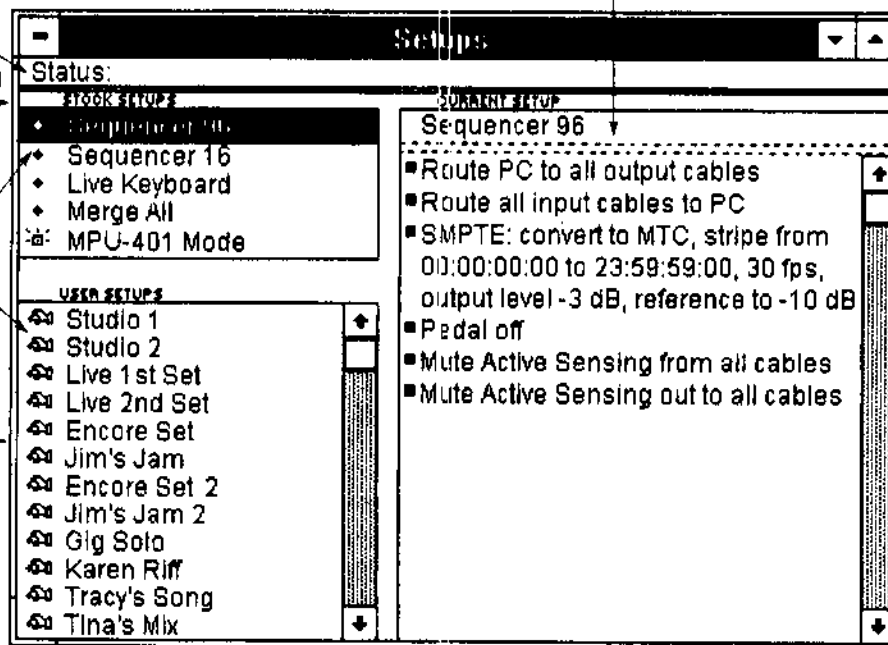


Figure 3-1: The Setups window.

### **Selecting the current setup**

When one of the setups is highlighted as shown in Figure 3-1, it becomes the **current setup**. The current setup represents the current state of the MIDI Express PC.

To switch to a different setup, click the setup name in the Setups window.

You can select either a stock setup or a user setup in this manner.

### **Viewing the current setup script**

The **setup script** is an itemized list of settings for the currently selected setup. The script is shown in the right-hand portion of the window with the name of the current setup shown at the top. (See Figure 3-1 on page 30.) The script is a comprehensive list of all of the MIDI Express PC settings for the setup. The next section explains how to add or remove a setting from the script.

### **Adding a script setting**

You can change any settings of the currently selected setup in any window in MIDI Express PC Console. For example, you could add or delete a connection in the Cable Routing window, change a setting in the SMPTE Controls window, or mute something in the Event Muting window.

Any additions you make appear in italic text at the bottom of the setup script in the Setups window.

### **Saving changes to a setup**

If a user setup is selected at the time you add or remove a script item, the change is automatically saved with the setup. (Saving occurs when you switch to a different setup or when you quit MIDI Express PC Console.)

If a stock setup is selected when you make the modification, the change remains in effect until you switch to a different setup. Since the modification can't be saved with the stock setup (stock setups can't be modified), MIDI Express PC Console presents you with a window asking you if you would like to save the current state of the MIDI Express PC as a user setup. Indicate what you would like to do and click OK. The modified stock setup gets saved as a user setup, and the original stock setup remains unchanged.

## ***Creating a user setup***

If you want to save changes you have made to a setup right away, choose the Save to Setup command in the Setups window. This saves the changes with the setup immediately, and the italicized text in the script becomes plain text.

A **user setup** is a setup that you create, with its own, customized settings. User setups are displayed in the User Setups list in the Setups window. You can create an unlimited number of your own setups.

To create a setup:

1. **Click an existing setup that most closely resembles the new setup you want to create.**

This makes it the current setup.

2. **If desired, make any changes you would like to make to the current setup in any MIDI Express PC Console windows.**

3. **Choose Add Setup from the Setups menu.**

A window appears asking you to name the new setup.

4. **Click OK to confirm the name.**

The new setup appears in the "User setups" list in the Setups window. It is selected (which makes it the current setup), and the script to the right shows you all of its settings.

## ***Modifying a stock setup***

Stock setups cannot be modified (except for the MPU-401 setup). However, you can create a user preset based on a stock preset and then modify the user preset any way you wish. To do so, see "Saving changes to a setup" on page 31.

## ***Renaming user setups***

The stock setup names (the first eight setups in the list) cannot be changed. Any user setup name, however, can be changed.

### ***Deleting a user setup***

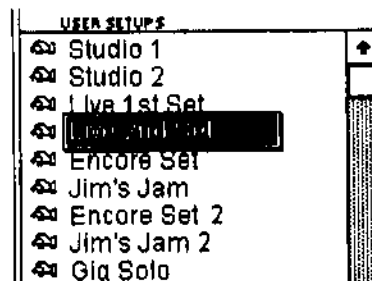
### ***Listing user setups alphabetically***

## ***Stock setups***

To change the name of a user setup:

#### **1. Double-click the name to pop-edit it.**

A pop-up box appears in which you can edit the text.



#### **2. Type the desired name.**

#### **3. Press return to confirm the new name or press the Escape key to cancel.**

To delete a user setup, select it and choose Delete Setup from the Setups menu.

To list setups alphabetically, choose Sort Setups from the Setups menu.

The Setups window provides several stock setups. These setups provide you with cable routing, SMPTE, and other settings for various common situations in which you will use the MIDI Express PC.

The stock setups cannot be modified (with the exception below). However, you can create a user setup based on a stock setup and modify it. See "Saving changes to a setup" on page 31.

- The MPU-401 setup is an exception: it *can* be modified.

Each stock setup is described in the following sections, including situations in which you would find it useful. See the "Stock Setup summary" on page 36 for a itemized description of each setup.



### **Sequencer 96ch**

This setup is designed for MIDI software, especially sequencing software, that supports multi-cable interfaces such as the MIDI Express PC. Use this setup if you have Cakewalk Pro™ or Cubase, which support the MIDI Express PC's full 96 channels. Each MIDI input and MIDI output on the MIDI Express PC has its own set of 16 MIDI channels, providing a total of 96 separate input channels and 96 separate output channels.

The specific settings for this setup are:

- Inputs 1 through 6 are all routed to the computer, so that all MIDI devices can send MIDI data to the computer.
- The computer is routed to all six outputs, so that MIDI software on the computer can send data to any MIDI device.
- SMPTE sync settings are as follows: Lock to MIDI Time Code (MTC) with jam sync (freewheeling) turned off.

### **Sequencer 16ch**

Use this setup for MIDI software, especially sequencing software, that does not support multiple, independent output cables on multi-cable interfaces like the MIDI Express PC. With this setup, the computer can communicate fully with all MIDI devices connected to the MIDI Express PC, and all devices share one set of 16 MIDI channels.

### **Live Keyboards**

Use this setup when you want to route any controller connected to a MIDI IN to all MIDI outputs. This setup is ideal for quickly routing a controller to a sound module and for using a MIDI controller without MIDI software on the computer. If you have connected both the MIDI IN and MIDI OUT of your keyboard controller to the MIDI Express PC, it is best to match the input/output port numbers on the MIDI Express PC. For example, if the controller is connected to MIDI IN port 3, connect it to MIDI OUT port 3 as well. If you do so, this setup prevents ugly MIDI feedback loops, which happen when the controller sends data back to itself via the MIDI Express PC. This setup avoids this problem by not sending data to the port that has the same number. For example, MIDI IN port 3 routes data to all MIDI OUT ports *except* MIDI OUT number 3.

### ***Merge All***

With this setup, any device connected to a MIDI IN will send data to all devices connected to the MIDI Express PC outputs, including the computer. This setup is ideal for troubleshooting because it routes everything to everywhere; any incoming data will be sent to all outputs. For example, if you are not getting sound from a sound module when you play notes on your controller, you can eliminate MIDI routing as the cause of the problem by temporarily using this setup. You can rest assured that the MIDI Express PC is routing the data to the module correctly, and you can then focus your efforts on other possible causes, such as bad MIDI cables, volume settings, etc.

Use this troubleshooting technique if you cannot successfully record data into your sequencer on the computer.

### ***MPU-401 Mode***

This setup is provided as an emulation of a Roland MPU-401 MIDI interface. Initially, MIDI IN port 1 is routed to the computer, and the computer is routed to all MIDI OUTs for basic MIDI recording and playback. Based on these cable routings, the MIDI Express PC Windows driver provides MPU-401 compatible software with MPU-401 Multimedia Extensions input and output devices, which the software can send data to and receive data from. If you want, you can modify the MPU-401 cable routing configuration to provide up to six MPU-401 inputs instead of the default one input. Just add the input connections in the Cable Routing window. For more information on MPU-401 mode, see chapter 10, "Emulating the Roland MPU-401".

## Stock Setup summary

Below is a summary of the settings for each stock setup. Following the table is a key for terms used in the table.

Setup	Cable Routing	SMPTE	Comments
Sequencer 96ch	IN 1-6 to computer Computer to OUT 1-6 Cablibzation enabled	Lock to MTC Jam sync off	--
Sequencer 16ch	IN 1-6 to Computer Computer to OUT 1-6 Cablibzation disabled	Lock to MTC Jam sync off	--
Live Keyboards	IN 1 to all OUT except 1 IN 2 to all OUT except 2 etc. for all inputs Computer to all OUTs	Lock to MTC Jam sync off	--
Merge All	All INs to All OUTs All INs to Computer Computer to all OUTs	--	--
MPU-401 mode	IN 1 to Computer Computer to all OUTs	Lock to MTC Jam sync off	--

### Stock Setup Table Key

IN Refers to a MIDI IN port

OUT Refers to a MIDI OUT port

Cablibzation A mode where each port has a separate set of 16 MIDI channels for a total of 96 input channels (6 ports x 16 channels = 96 total channels)

Computer Refers to the computer the Express PC is connected to.

MTC MIDI Time Code

Jam Sync See "Using freewheeling to avoid time code dropouts" on page 53 for an explanation of Jam Sync.

MPU-401 A standard PC MIDI interface developed by Roland

## Chapter 4 ***Working With Files***

This chapter explains how you can save the contents of the Setups window as a file on disk, which you can reopen, modify, and save again at any time. This allows you to store a potentially unlimited number of MIDI Express PC setups.

In essence, a MIDI Express PC file stores the entire contents of the Setups window, which consists of all of the MIDI Express setups you have created and saved in this window. For information about setups, see chapter 3, "Working with Setups".

### ***Creating a new file***

To create a new file:

1. **Choose Save from the File menu.**
2. **A window appears asking you for a file name and a location on your computer hard disk.**
3. **Type in a name, select a directory, and click OK.**

### ***Opening an existing file***

To open an existing file from within MIDI Express PC Console:

1. **Select Open from the File menu.**

A dialog box appears containing a list of files in the current directory. Change the directory, if necessary.

2. **Click on the name of the file you wish to open.**
3. **Click on the Open button.**

The file you selected will be opened. Double-clicking on the name of the file will also open the file.

### ***Saving files***

When you open a file from a disk, MIDI Express PC Console makes a copy of that file and puts it in the computer's temporary memory (called Random Access Memory, or RAM). When you work with the file, you are actually working with the copy that is in RAM, not the original file on the disk. If you choose *Save* from the File menu, MIDI

### ***Saving a file under a different name***

### ***Reverting to a previously saved version of the file***

Express PC Console writes the changes you have made into the original file on the disk. If you do not save, the changes you have made are never written to the disk. For example, if you Exit without saving changes, the work you have done is not saved on the disk and is permanently deleted from the computer's memory.

Here's the basic procedure to save a file:

#### **1. Choose the Save command from the File menu.**

Your file is saved on the disk in its current state, replacing the old version with the same name. If you want to keep the old version, use the Save As command in the File menu (see below) instead to save the current version under a different name. If you are saving the file for the first time, a dialog box will appear prompting you for a name.

The Save As command is used to save a file under a different name or to a different disk:

#### **1. Choose Save As from the File menu.**

The Save As dialog box will appear.

#### **2. Type in the new name for the file.**

#### **3. Click on the Save button.**

Your file is saved on the disk in its current state under the new name.

If you've made unwanted changes to a file, you can undo the changes you've made by returning to the last saved version. This operation is identical to closing the file and opening it from the disk again.

#### **1. Choose Revert to Saved from the File menu.**

A dialog box asks you to confirm this choice.

#### **2. Click on OK to confirm the action, Cancel to withdraw it.**

Reverting to the last saved version of the file means that all changes you've made since you opened or last saved the file will be lost.

### ***Exiting MIDI Express PC Console***

Reverting to a previously saved version is useful when experimenting with a file. You can quickly remove any changes by using this command. Make sure that you save the file in the state you want it before beginning to experiment.

Exiting MIDI Express PC Console returns you to Windows.

- Choose *Exit* from the File menu.

A dialog box may appear asking you if you want to save changes made to the file. To save the changes, press Yes. If you don't want to save changes, press No. To withdraw the Exit command and return to your MIDI Express PC Console file, press Cancel.

## Chapter 5

# ***Making Connections with the Cable Routing Window***

### ***Naming inputs and outputs***

The Cable Routing Window provides you with complete control over the flow of MIDI data through the MIDI Express PC.

Before you begin using the Cable Routing window, we recommend that you name the inputs and outputs to make it easier to recognize what is connected to each one.

Use the "MIDI connections work sheet" on page 19 to jot down what is connected to each input and output on the MIDI Express PC. Then enter the names as follows:

1. **Click the input or output cable name to pop-edit it.**

A pop-up box appears to let you edit the name.

2. **Type the name you want, and press return to confirm you pressed the down (or up) arrow key to name the next (or previous) cable.**

3. **To change from one side to the other, press the tab key.**

When you have finished, Express PC Console remembers the names.

### ***Cable Routing window basics***

The cable routing window shows you how MIDI data is routed between the Express PC's MIDI inputs, MIDI outputs, and the computer. Inputs are on the left, outputs are on the right, and the computer appears in the middle. The "Show..." commands in the Routing menu control what is displayed in the window. Clicking on a cable name in the window will pop-edit it.

menu item for the type of connections you want to see: cable-to-cable connections or cable-to-computer connections. Below in Figure 5-1, the window displays connections to and from the computer.

Use the Show Cable Connections and Show Computer Connections commands in the Routing menu to control which connections are shown in the window.

Devices connected to the MIDI Express PC MIDI outputs

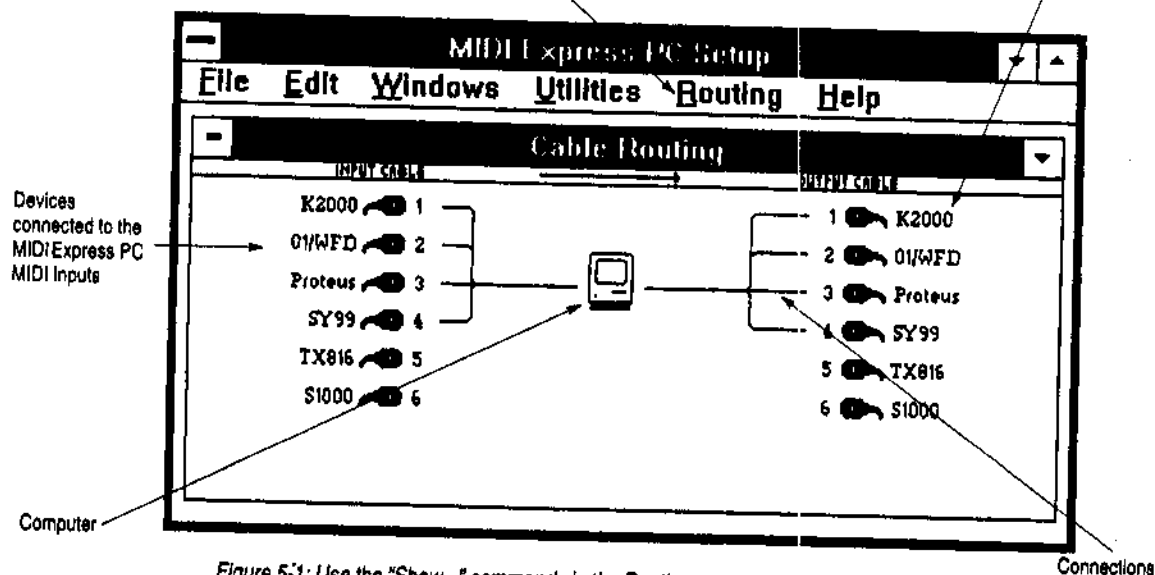


Figure 5-1: Use the "Show..." commands in the Routing menu to control what connections are displayed in the window. In this example, the window is showing the connections between MIDI devices and the computer. MIDI data inputs going from the MIDI devices to the computer are shown on the left. MIDI data outputs going from the computer to the MIDI devices are shown on the right.

If you ever need to check how MIDI data is being routed in the MIDI Express PC, use the Cable Routing window to do so. In the rest of this chapter, you'll learn how to make and break your own connections.

## Making a connection

To connect a piece of MIDI gear to another in the network:

1. Choose Show Cable Connections from the Routing menu.
2. Click the source cable icon on the left and drag to the destination cable icon on the right.



### ***Connecting one input to multiple outputs***

### ***Selecting a connection***

### ***Deselecting all connections***

### ***Breaking a connection***

### ***Specifying channels in a connection***

#### **3. Press the return key to confirm the connection.**

The "all" box displayed on the connection means that all channels on the K2000 are currently routed to all channels on the Pro. If you want to connect specific MIDI channels, you can type in before pressing the return key. See "Specifying channels in a connection" on page 43.

To connect an input to more than one output, make each connection separately as described in the previous section. As a shortcut, shift-drag (hold down the shift key before you click and drag) the input cable on the left over to the first output, and then drag directly to each additional output on the right. As you "touch" an output, it highlights and a connection is made.

To select a connection, click the connection's input cable icon on the left or any one of its output cable icons on the right.

To deselect all connections, click in a blank area anywhere in the middle of the window between the two columns of cables. (Do not click on a cable connection).

To break a connection:

- 1. Select the connection.**
- 2. Press the delete (or backspace) key.**

The MIDI Express PC lets you route specific channels to any outputs. For example, you could route channel 2 from your controller to a sound module, while you route channel 3 to your sampler. This is great for routing keyboard splits to different destinations.

☛ If you need to rechannelize data see chapter 6, "Channel Remapping".

To specify the channel to be routed:

- 1. Click the input device.**
- 2. Click the box on the connection.**

3. **Type in the desired MIDI channel and press return to confirm your choice.**

If you want, you can type in several channels. This is useful if you are using a keyboard split on your controller and you want to send the splits to different channels of the same synth. For example, a K2000 keyboard could be split into three parts, transmitting on channels 1, 2, and 3, which are being connected to channels 1, 2, and 3 on a Proteus, as well as channel 2 on another synth and channel 3 on yet another. If you want all channels to be connected, type "a" for "all" (connect all channels). When all channels are connected, channel 1 is connected to 1, 2 is connected to 2, etc.

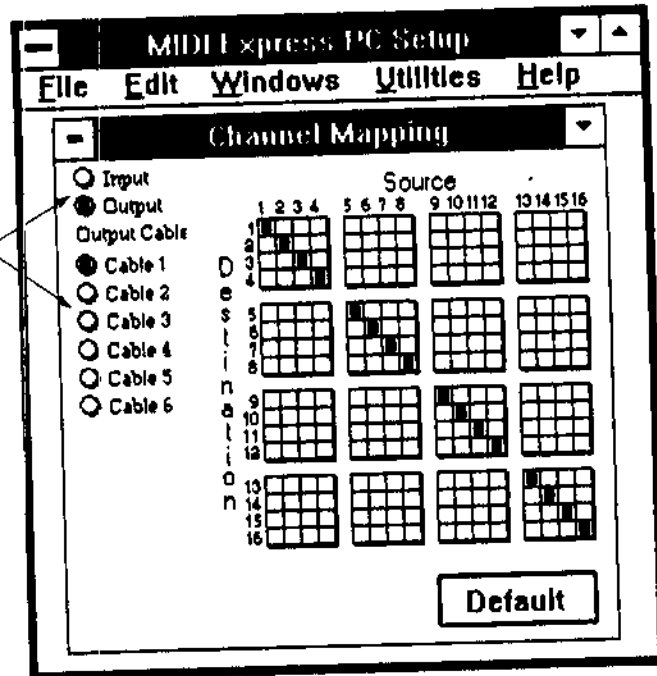
☛ **Note:** channel remapping cannot be done in this window. For example, you cannot route channel 3 on the K2000 to channel 5 on the Proteus. To accomplish this, see chapter 6, "Channel Remapping".

To edit connections to and from the computer, make sure that "Show Computer Connections" is checked in the Routing menu. Edit these connections in the same manner as described earlier in this chapter.

## Chapter 6 *Channel Remapping*

The Channel Mapping window controls the channelizing of data on all MIDI IN and MIDI OUT ports in a MIDI Express I. With complete flexibility, this window can switch data from its current MIDI channel to any other channel immediately when the data enters or exits the MIDI Express PC.

These options set up the check box grid on the right. Choose MIDI input ports or MIDI output ports, and then choose the MIDI port (device) that you want to rechannelize. Then click the appropriate source/destination channel check box in the grid.



Map the original (across the top) new channel by clicking the box that intersects.

### **Basics**

Channel mapping can be easily understood if you consider imagine that each MIDI IN or MIDI OUT port on the MIDI Express I has a filter just inside the socket. MIDI data enters the filter channel and as it passes through the filter, it gets switched to a different channel.

## Using channel mapping

Source		1	2	3	4	5	6	7	8
Destination	1	<input checked="" type="checkbox"/>							
	2								
	3								
	4								
	5								
	6								
	7								
	8								

On a MIDI IN port, data enters the MIDI Express PC on a given channel. But before it goes anywhere else, either to the computer or to a MIDI OUT cable, the Channel Mapping window can switch the data to a different MIDI channel.

On a MIDI OUT port, before data exits the MIDI Express PC, the Channel Mapping window can switch the data to a different channel.

Channel Mapping like this is useful in many different situations. For example, you may have a MIDI keyboard that only transmits data on MIDI channel 1. If you want to transmit its data on a different channel, you can map channel 1 on the keyboard's MIDI IN cable to any other MIDI channel. To the rest of the MIDI Express PC, it will then appear as if the keyboard is transmitting on the new, destination channel.

To map a source channel to a different destination channel, locate the source channel's column (across the top of the grid) and click the check box in the column that corresponds to the desired destination channel (indicated along the left side of the grid).

For example, to remap channel 4 to channel 14, click the check box in column 4, row 14 as shown to the left.

The default check box (column 4, row 4) will deselect, indicating that data will no longer be sent to channel 4. Now data received on MIDI IN cable 1, channel 4 will be remapped to channel 14.

## Muting source channels

The Channel Mapping window will route each source channel to *only one* destination channel. On the check box grid, this means that one, and only one, check box can be selected in each column of the grid. You therefore cannot mute a source channel by deselecting all check boxes in its column. However, you can mute a channel by using the Event Muting window. For more information about muting, please refer to chapter 7, "Muting MIDI Data".

You can, however, select as many check boxes in a row as you like. Doing so simply routes data from all the source channels to a single destination channel.

## Muting and remapping

For information about when muting occurs before channel mapping and vice versa, see "Muting and remapping" on page 50.

## Chapter 7

# Muting MIDI Data

### Basics

The Event Muting window is a sophisticated MIDI data filter controls what types of data will be sent and received by each OUT and MIDI IN port in a MIDI Express PC. You can filter type of MIDI data on any channel on any port. In addition, each channel can have its own unique muting setup. The Event Muting window shows the muting status for each type of data on all channels and all 6 cables (input or output) at once, giving you comprehensive feedback on the state of your MIDI Express

A simple way to think of data muting is this: imagine that each IN or MIDI OUT port on the MIDI Express PC has a filter just before the socket. A MIDI data stream enters the filter and then continues past the filter with certain types of data removed. The filter has "swallowed" the data types that are being muted.

On a MIDI IN port, data is muted before it enters the MIDI Express PC. On a MIDI OUT port, data gets muted just before being transmitted out the cable.

- When data is muted on a MIDI IN port, the light on the front panel still blinks when the data is received on that port. Don't be concerned. The light blinks to let you know that the MIDI Express PC is indeed receiving data on that port. However, the data does get muted. (On output, however, since muted data doesn't actually get sent, the light does *not* blink.)

Whenever you would like to mute data, begin with the following procedure:

**1. Open the Event Muting window.**

The check box grid displays what cable and channel data is muted on.

These options set up the muting check box grid on the right. Choose to mute MIDI input ports or MIDI output ports, and then choose the type of data you wish to mute. Then click the appropriate cable/channel check box in the grid. When the check box is checked, the data is muted.

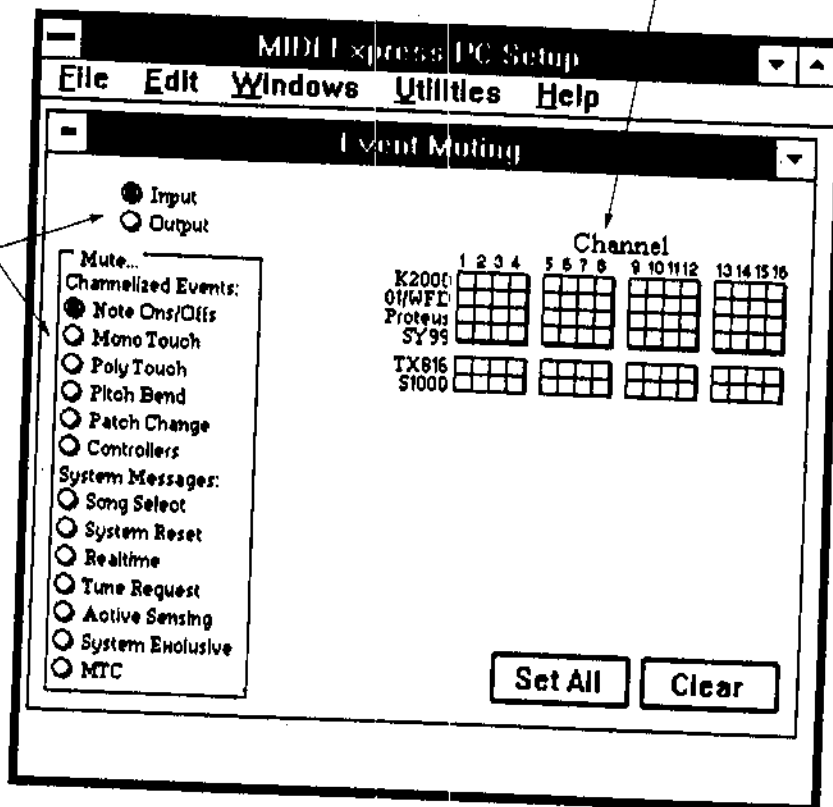


Figure 7-1: The Event Muting window can be used to prevent MIDI data from passing through a MIDI Express PC MIDI Input or output.

**2. Choose Input or Output.**

Click one or the other. Doing so sets the check box grid to either MIDI IN ports or MIDI OUT ports.

**3. Select the type of data to be muted.**

Click its radio button to the left of the window.

### ***Muting a data type on a single channel***

### ***Muting a data type on all channels***

### ***Muting on all channels, all cables***

### ***Unmuting data***

### ***Muting MIDI system messages***

### ***Muting MIDI beat clocks***

Now you are ready to click check boxes in the grid to mu

To mute a single data type on a single MIDI channel, click box for the channel in the grid, which can be located by the channel number column (across the top of the grid) and row (along the left side of the grid).

To mute a data type on all 16 channels on a cable, click the name at the left edge of the check box grid. Doing so will check boxes in the row, selecting all channels for muting.

To mute a data type on all channels and all cables, click the button and click Set All. This sets the grid to all MIDI IN channels. To select all the check boxes in the grid. Similarly, click the button and click Set All again. This sets the grid to all MIDI cables and selects all the check boxes.

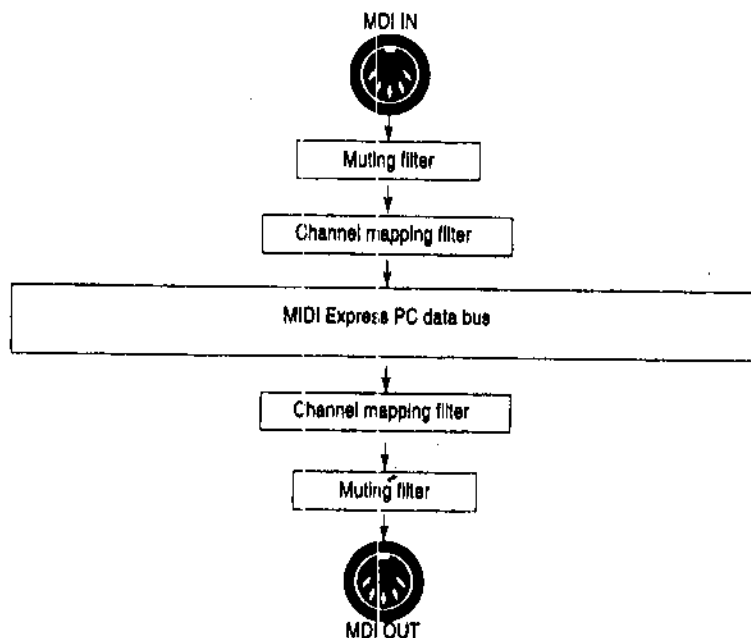
To unmute data on a single channel, deselect its check box. To unmute data on all channels and cables, click Clear.

MIDI System messages are not transmitted on a particular channel. As a result, when you mute a system message data such as real time data (beat clocks) or system exclusive data, the entire row of check boxes highlights to indicate that muting is occurring on "all channels".

When MIDI beat clocks are transmitted to the Express PC (or from the computer) they are echoed to all cables. If you want MIDI beat clocks sent to all your MIDI devices, mute data on the output ports for those devices.

## Muting and remapping

On the MIDI IN ports, muting occurs before channel remapping. On the MIDI OUT ports, channel remapping occurs before muting, as shown below:



For example, let's say that on one of the MIDI Express PC MIDI ports, you are muting channels 1-8, and you are also remapping all channels (1-16) to channel 16.

If you did this on a MIDI IN port, channels 1-8 would get muted, and the data on channels 9-16 would get mapped to channel 16. If you did this on a MIDI OUT port, all data on all channels would be sent out on channel 16, since all channels are mapped to channel 16 before the muting occurs on channels 1-8.

Here's another example: Let's say you are mapping all channels to channel 1, and you are muting channels 1-8.

On input, only channels 9-16 will get rechannelized to channel 1, because channels 1-8 get muted first. On output, no data would be sent because all channels are mapped to channel one first, and then channel 1 is muted.



## Chapter 9

# ***Working with the Foot Switch Input***

This chapter explains how you can use the foot switch MIDI Express PC. You can:

- Generate MIDI data, such as notes, controllers, pitch changes, pitch bend, and system exclusive data with the foot switch
- Use the foot switch to step through a series of MIDI events (or groups of events)
- Convert an audio tempo source (such as a click track) to MIDI data to slave MIDI hardware or software to the tempo source

## Pedal & Click window basics

The foot switch input is controlled by the Pedal & Click window, which can be opened from the Windows menu. This window lets you indicate the type of input you are using (click input or foot switch). It also lets you choose what type of data will be generated and where it will be sent.

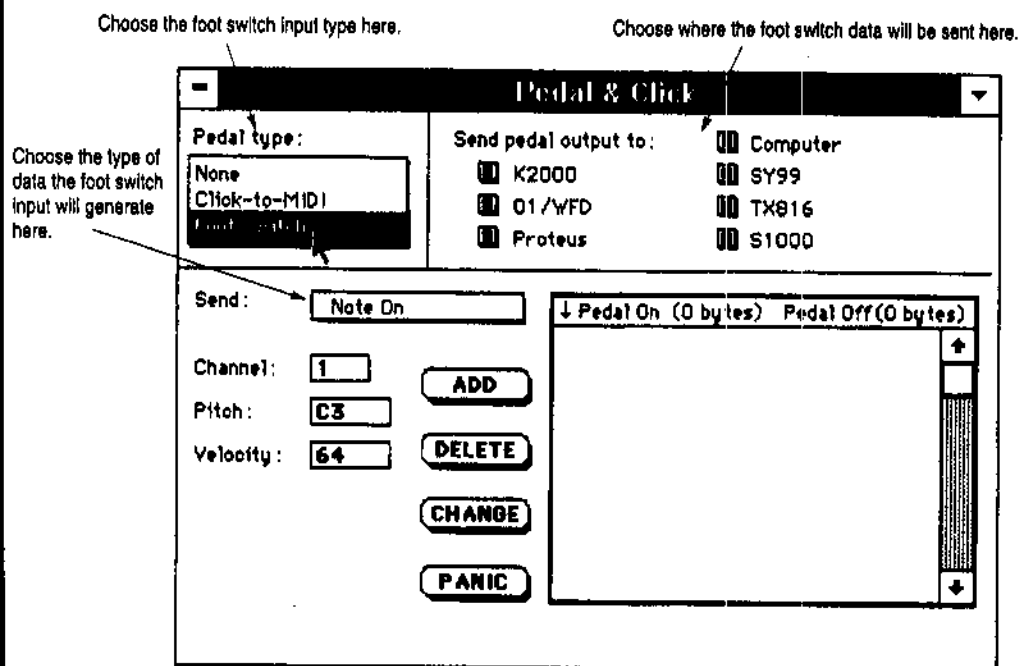


Figure 9-1: The Pedal & Click window.

## Saving pedal & click settings as part of a setup

As with other MIDI Express PC console windows, the settings you make in this window affect the current setup in the MIDI Express PC, and they will remain in effect until you change them, switch to a different setup, or switch off the MIDI Express PC. In addition, you can save these settings as part of a setup on disk. Each setup can have its own, unique pedal & click settings. For example, you could program one setup to handle a foot switch, while another could be programmed for click-to-MIDI conversion.

To save pedal and click settings with a setup:

1. If the setup already exists, select the setup in the Setups window.

For complete information, see chapter 3, "Working with Setups".

## Chapter 11 ***MIDI Express PC Software Quick Reference***

This chapter provides a quick overview of each feature in the MIDI Express PC Console software.

This chapter is organized by the menus in the MIDI Express PC Console. For information on a feature, find out what menu it is in and then turn to the appropriate section in this chapter.

### ***File menu***

The File menu contains commands that let you create and save MIDI Express PC Console files on your PC hard drive (or floppy disk). MIDI Express PC Console files store the entire internal configuration of the MIDI Express PC. This allows you to save an unlimited number of preset configurations on disk for the MIDI Express PC.

#### ***Open***

Allows you to open MIDI Express PC Console files that you have saved to your hard disk (or to a floppy disk).

#### ***Close***

Closes the currently open MIDI Express PC Console file. If you have not already opened or saved a file, this command is greyed out.

#### ***Save***

Saves the current configuration to disk. All changes you have made to the console file are written to disk. If this is the first time you are saving the current configuration, you will be prompted for a file name.

#### ***Save As***

Saves the current configuration as a file, after prompting you for a file name. If you use a different name than the original file, a new file is created with the new name and the original file is left unchanged.

#### ***Revert to saved***

Discards all changes you have made to the current configuration file since you last saved it. If you have not made any changes or a file is not open, this menu command is greyed out.

## **Edit menu**

## **Windows menu**

### **Exit**

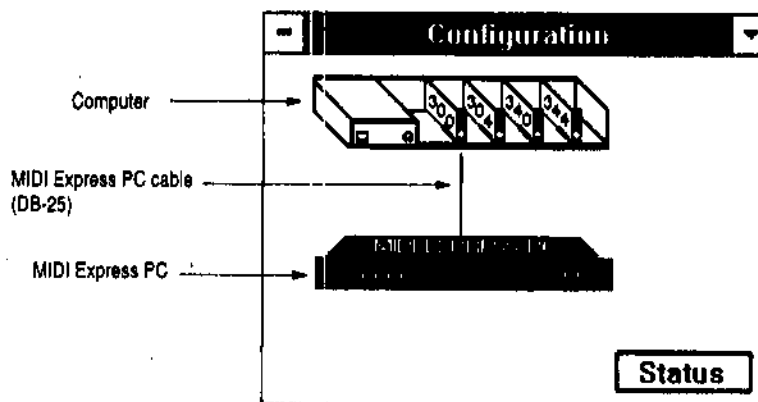
Quits MIDI Express PC Console application.

The Edit menu contains the standard Windows editing commands, such as Cut, Copy, and Paste. These commands do various things depending on the situation. In general, Cut remove things. Undo takes back the last thing that you did. Copy makes a copy of the selected item and places it in the Clipboard.

This menu opens all of the windows in MIDI Express PC Console, which contain the bulk of its features. These windows are described briefly in the following sections.

### **Configuration**

The Configuration serves as a diagnostic tool for your MIDI Express PC. It shows you how the MIDI Express PC is connected to your PC.



**Computer:** Represents the computer that is running the MIDI Express PC software. It displays the connection to the PC card in the computer.

**MIDI Express PC:** Represents the MIDI Express PC connected to the computer.

**MIDI Express PC Cable (DB-25):** Represents a DB-25 cable that connect the MIDI Express PC to the 8-bit PC card.

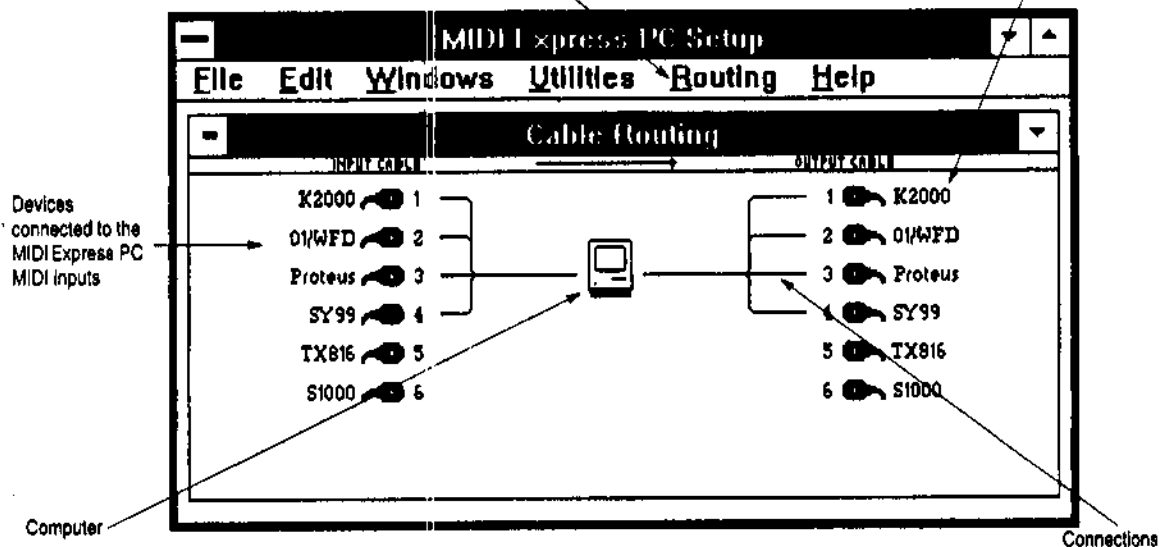
**Status Button:** Checks for a MIDI Express PC and redraws the diagram in the window.

### **Cable Routing**

The Cable Routing window lets you connect MIDI Express PC input to any output(s), including the computer.

Use the Show Cable Connections and Show Computer Connections commands in the Routing menu to control which connections are shown in the window.

Devices connected to the MIDI Express PC MIDI outputs



**Connections:** to make a connection, drag from one icon to another.

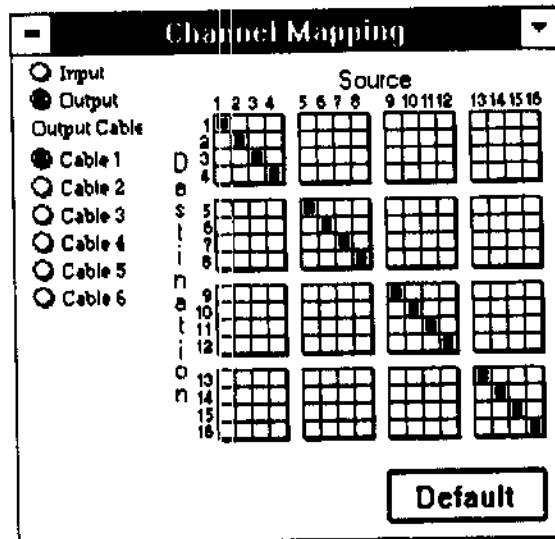
**Computer:** represents the PC that the MIDI Express PC is connected to.

**Input cable:** represents the MIDI data input from a MIDI device connected to the MIDI IN port on the MIDI Express PC.

**Output cable:** represents the MIDI data output going to a MIDI device connected to the MIDI OUT port on the MIDI Express PC.

## Channel Mapping

The Channel Mapping window allows you to change the channel of data as it enters or leaves the MIDI Express PC on any input or output cable.



**Cable Buttons:** Select the cable whose MIDI channels will be remapped in the check box grid to the right. Each cable has its own channel map. To toggle between Input and output, click the Input and Output buttons above.

**MIDI Channel Check Box Grid:** Contains check boxes that map their source channel (column number) to their destination channel (row number).

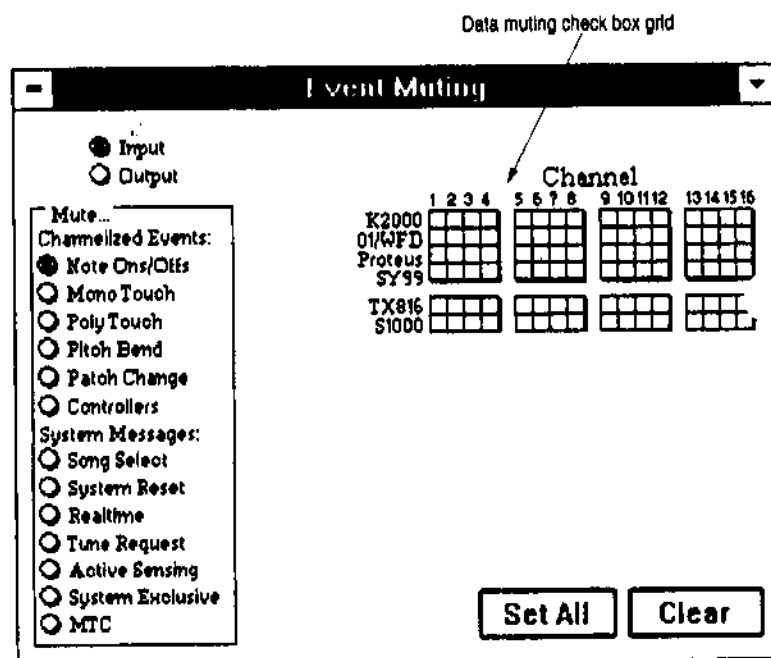
**Source Channel:** Columns represent the 16 channels to be mapped. Only one check box can be selected in each column. This is because each source channel can be mapped to only one destination channel.

**Destination Channel:** Rows represent the 16 possible channels to which a source channel can be mapped. You can select as many check boxes as you like in a row.

**Default Button:** Returns the mapping grid to an unchannelized state, where channel 1 goes to channel 1, channel 2 goes to channel 2, and so on. The default state appears as a diagonal line from upper left to lower right.

### Event Muting window

The Event Muting window allows you to mute any type of MIDI data on any input or output on the MIDI Express PC.



**Channelized Events:** Selects a type of data to be muted in the grid to the right. This category of MIDI data consists of data that is channel specific, such as MIDI note data.

**System Messages:** Selects a type of data to be muted in the grid to the right. This category of MIDI data consists of all system common data types—MIDI data that is not channel specific. When one of these data types is selected, an entire row of check boxes will select when you click any box in the row. This indicates that the non-channel specific data type will be muted on all channels on that cable.

**Data Muting Check Box Grid:** Contains check boxes that mute data on a MIDI channel (column number) and cable (row number).

**Channel:** Columns in the grid refer to the 16 MIDI channels available on each MIDI Express PC cable.

**Cable:** Rows in the grid refer to the 6 MIDI IN or 6 MIDI OUT cables available in a MIDI Express PC.

**Clear Button:** Deselects all check boxes in the grid, which unmutes all channels.

**Set All Button:** Selects all check boxes in the grid, muting data on all channels.

### **SMPTE Controls**

The SMPTE Controls window provides controls for all of the MIDI Express PC's SMPTE synchronization capabilities.

**SMPTE Reader**

HOURS MINUTES SECONDS FRAMES  
-- : -- : -- : --

Frame Rate: 24 Format: MTC  
MIDI Express PC: 340

**SMPTE to MIDI Conversion**  
Convert incoming SMPTE to:  
☐ Off  
☒ MIDI Time Code (MTC)  
☐ Direct Time Lock (DTLe)

☒ Freewheel 0 frames  
☐ "One time" jam sync  
(looks to existing code,  
but begins independent  
striping at first drop-out)

**SMPTE Striping**  
Start time: 00:00:00:00  
Stop time: 23:59:59:00  
Frame rate while striping/freewheeling:  
☐ 24 ☐ Drop Frame  
☐ 25 ☒ 30

SMPTE output level:  
☐ ☐ ☐ ☐ ☐ ☐ ☒  
-10dB +4dB

Time code routing...

Stripe Stop

**SMPTE Reader:** Displays SMPTE time code that the MIDI Express PC reads or generates. It does so by responding to MIDI Time Code (MTC) or Enhanced Direct Time Lock (DTLe) that the MIDI Express PC sends to the computer while syncing to or generating SMPTE.



**Hours:Minutes:Seconds:Frames:** Displays the current SMPTE location. When no MIDI sync has been generated or received, the reader displays dashes.

**Frame Rate (in the SMPTE Reader):** Displays the frame rate (in frames per second) of the SMPTE being generated or received by the MIDI Express PC. The frame rate can be 24, 25, 30, or DF (Drop Frame).

**Format:** Displays the format of the MIDI sync that the MIDI Express PC is generating or receiving. There are two such formats: MIDI Time Code (MTC) and Enhanced Direct Time Lock (DTLe).

**MIDI Express PC:** Displays the port information of the MIDI Express PC that is currently reading or writing SMPTE.

**Convert incoming SMPTE to:** Determines what type of time code the MIDI Express PC will generate while converting SMPTE. When the Off option is chosen, the MIDI Express PC generates no MIDI sync.

**Freewheel \_\_\_\_ frames:** Sets the number of frames that the MIDI Express PC will run on its own (or "freewheel" past) when it encounters a drop out in the time code that it is locking to. Values are 0, 1, 2, 4, 8, 16, and 32 frames. Because the MIDI Express PC always generates fresh time code while locking to existing code, this option can be used to generate fresh time code with drop-outs removed.

**"One time" Jam sync:** When the MIDI Express PC locks to incoming time code, this option causes it to begin stripping on its own at the first drop-out it encounters in the incoming time code. To stop stripping, click the Stop button, or wait until the MIDI Express PC reaches the stop time. Because the MIDI Express PC always generates fresh time code while locking to existing code, this option can be used to generate fresh time code over large drop-outs or to lengthen an existing SMPTE track.

**Time code routing:** Opens a window that lets you choose where time code will be sent in the MIDI Express PC, including the computer and anything connected to the MIDI OUT jacks.

**Start time:** Determines the frame time at which the MIDI Express PC will begin when you click the Stripe button to generate (record) time code.

**Stop time:** Determines the SMPTE frame at which striping will automatically stop after you click the Stripe button to generate time code.

**Frame rate:** determines which SMPTE time code frame rate to be generated. Unless you are working with film, video or European formats, we recommend using 30.

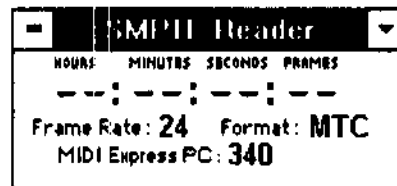
**Output Level:** Determines the strength of the SMPTE audio signal generated from the SMPTE OUT jack on the rear panel.

**Stripe button:** Causes the MIDI Express PC to begin generating SMPTE time code. SMPTE is sent via the AUDIO OUT jack on the rear panel.

**Stop button:** Causes the MIDI Express PC to stop generating SMPTE time code.

### ***SMPTE Reader***

The SMPTE Reader provides a running update of SMPTE time code being converted or generated by the MIDI Express PC. It is identical to the SMPTE Reader in the SMPTE Controls window.

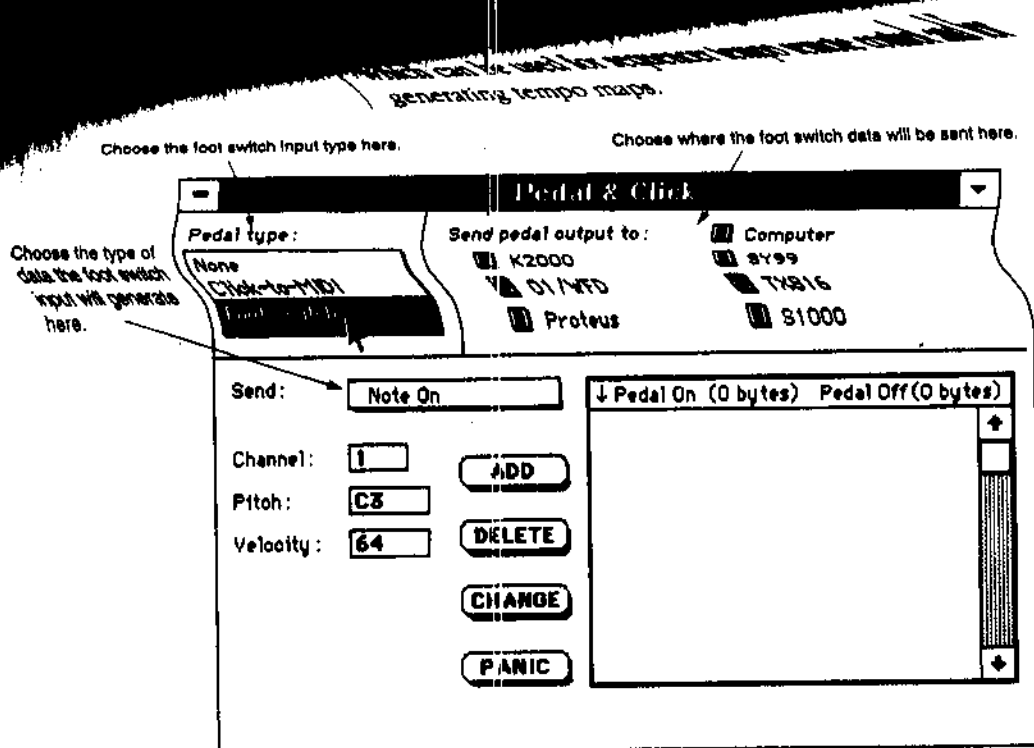


**Hours:Minutes:Seconds:Frames:** Displays the current SMPTE location. When no MIDI sync has been generated or received, the reader displays dashes.

**Frame Rate:** Displays the frame rate (in frames per second) of the SMPTE being generated or received by the MIDI Express PC. The frame rate can be 24, 25, 30, or DF (Drop Frame).

**Format:** Displays the format of the MIDI sync that the MIDI Express PC generates generating or receiving SMPTE. There are two such formats: MIDI Time Code (MTC) and Enhanced Direct Time Lock (DTLe).

**MIDI Express PC:** Displays the port information of the MIDI Express PC that is currently reading or writing SMPTE.



**Pedal type:** Determines whether the foot switch input will act as a foot switch jack or as a click input jack.

**Send pedal output to:** Determines which MIDI devices will receive data generated by the foot switch or click conversion.

**Send:** Determines what type of MIDI data will be generated; parameters for each data type appear below the pop-up menu.

**Add/Delete/Change:** These buttons let you build a list of MIDI data events to be sent by the foot switch. Click Add to add the event shown on the left to the list; the event is added to the bottom of the

list or below the currently highlighted event in the list. Click Delete to remove the currently highlighted event in the list. Click Change to modify the currently highlighted event in the list.

**Panic:** This buttons sends out an All Notes Off message in case you experience a stuck note while building the foot pedal data list.

## Setups

This window lets you manage all of your MIDI Express PC setups. A setup is a "snapshot" of all the MIDI Express PC's settings. You can create and save as many setups as you like.

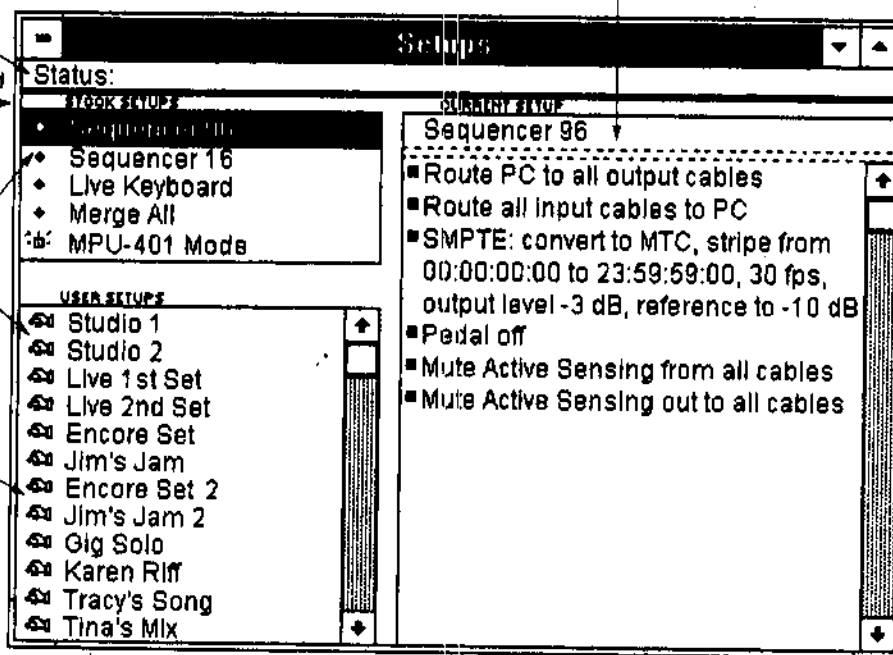
The status strip shows what setup is currently being loaded or saved.

Stock setups we have provided for common situations.

Click the name of the setup to activate it in the MIDI Express PC. The current setup name is highlighted.

User setups that you create using the Add Setup command in the Setups menu. Drag them up and down in the list to re-order them.

The script for (description of) the current setup. This list tells you all of the settings for the setup, such as cable routing and SMPTE settings.



**Status:** this area of the window informs you when data transfers between the software and hardware are going on.

**Stock setups:** Several MIDI Express PC setups that are provided from the factory for common situations in which you may use the MIDI Express PC.

### ***Send Current Setup***

This command sends all settings for the current setup from the MIDI Express PC Console software back to the MIDI Express PC. Most of the time, you won't need to use this command because the software updates the hardware automatically. However, under unusual circumstances, the setup in the software may not match the MIDI Express PC itself. If you suspect that this might be true, use this command to get the hardware and software in sync with one another again.

### ***Get Current Setup***

This command is the opposite of the Send Current Setup command described above. This command requests the current setup from the MIDI Express PC Console hardware to update the Express PC Console software. Most of the time, you won't need to use this command because the software the hardware and software update one another automatically. However, under unusual circumstances, the setup in the software may not match the MIDI Express PC itself. If you suspect that this might be true, use this command to get the hardware and software in sync with one another again.

### ***Panic***

This menu item is the same as pressing the panic button on the front panel of the MIDI Express PC: it sends out an All Notes Off message on every MIDI channel to cease any stuck notes. If you hold down the shift key while choosing the command from the menu, it also sends out a note-off message for every note on every channel. (Hold down the shift key as you click the menu.)